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10/707,390	12/10/2003	Mark Andrew Lillis	PES-0183	1389

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EXAMINER

SCHNEIDER, CRAIG M

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 02/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/707,390

Applicant(s)

LILLIS, MARK ANDREW

Examiner

Craig M. Schneider

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 28-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 9-26 is/are rejected.
- 7) ☒ Claim(s) 8 and 27 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Claims 28-30 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 12/19/2005.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 10-11, 13-16, 18, and 25 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujita (US2002/0148502).

Fujita discloses a gas regulation system (20) comprising a manifold (the piping 40 and to each block valve 42, 44, 46, and 48), a plurality of control modules (42, 44, 46, and 48) in fluid communication with the manifold, wherein each control module comprises an actuable valve in fluid communication with an associated gas storage device (22, 24, 26, and 28), and a power source (60) in electrical communication with each of the actuable valves. The term "adapted to" is being given patentable weight in such that the system is capable of only actuating one valve at a time (see MPEP 2111.04).

Regarding claim 10, the term "wherein" is being given patentable weight in such that the system is capable of doing the recited language after wherein.

Regarding claim 11, the system comprising a test module in electrical communication with the manifold controller (page 2, paragraph 16-17).

Regarding claim 13, the system comprising an electrochemical cell system in fluid communication with the manifold, wherein the electrochemical cell system comprises a fuel cell (page 1, paragraph 13).

Regarding claim 14, the term "wherein" is being given patentable weight in such that the system is capable of doing the recited language after wherein.

Regarding claim 15, wherein the gas is a hydrogen gas (page 1, paragraph 2).

Regarding claim 16, a process for operating a gas regulation system, wherein the gas regulation system comprises a manifold, a plurality of control modules in fluid communication with the manifold, and a power source in electrical communication with the plurality of control modules, wherein each of the control modules comprises an actuatable valve in fluid communication with an associated gas storage device, and a circuit comprising a switch in electrical communication with the actuatable valve and the power source, the process comprising closing a selected one of the switches and energizing the circuit defined by the closed switch to open the actuatable valve. The term "wherein" is being given patentable weight in such that the system only need to be capable of only opening one valve.

Regarding claim 25, a control module for a gas regulation system having a manifold, the control module comprising a processing unit responsive to an external control signal, an actuatable valve responsive to the processing unit and a power source, and adapted for fluid communication between a gas storage device and the

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manifold. The term "wherein" is being given patentable weight in such that the system only need to be capable of only opening one valve at a time.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita as applied to claims 1 and 16 above, and further in view of Agricola et al. (US2002/0134342).

Fujita discloses all the features of the claimed invention except that the system comprises a directional pressure-reducing device disposed between the manifold and the control module. Agricola et al. disclose that the pressure reducing valve (7) is disposed between the manifold (1) and the control valves (8 and 9)(page 1, paragraph 17).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the pressure reducing valve as disclosed by Agricola et al. onto the system of Fujita, in order to provide the gas at the required working pressure for the components.

6. Claims 3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita as applied to claims 1 and 16 above, and further in view of Takeda et al. (US2002/0092575).

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Fujita discloses all the features of the claimed invention except that the system comprises a directional pressure-reducing device disposed between the control module and the gas storage device. Takeda et al. disclose that the pressure reducing valve is disposed immediately outside the gas storage device.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the pressure reducing valve of Takeda et al. onto the system of Fujita, in order to reduce the pressure of the gas to a workable pressure.

7. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita as applied to claim 1 above, and further in view of Belcher, Jr. (2,793,813).

Fujita discloses all the features of the claimed invention except that the gas regulation system further comprises an impedance safety monitor device in electrical communication with the power source. Belcher, Jr. discloses the use of an impedance device to take the place of a sensing element in a control circuit that would sense the condition of the system and further has a shut down component (col. 1, lines 56-64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the impedance device of Belcher, Jr. onto the system of Fujita, in order to have a sensing element that could shut down the system if a problem occurred.

8. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita.

The examiner takes official notice that the use of an impedance safety monitor device is old and well known in the art and would be combined with the device of Fujita for reasons that old and well known in the art.

9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita as applied to claim 1 above, and further in view of Petite et al. (US2002/0125998).

Fujita discloses all the features of the claimed invention except that the control modules further comprise a local control-processing unit in electrical communication with a manifold controller. Petite et al. disclose the use of a central controller (130) and a local controller (110)(page 3, paragraph 42).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the local controllers of Petite et al. onto the system of Fujita, in order to add more control to the system.

10. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita.

The examiner takes official notice that the use of an impedance safety monitor device is old and well known in the art and would be combined with the device of Fujita for reasons that old and well known in the art.

11. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita as applied to claim 1 above, and further in view of Watson (3,322,135).

Fujita discloses all the features of the claimed invention except that the actuatable valves comprise a solenoid valve. Watson discloses solenoid valves (23) on the discharge side of tanks (col. 4, lines 47-50).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the solenoid valves as disclosed by Watson onto the actuable valve of Fujita, in order to utilize more cost effective valves.

12. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita-Agricola et al. as applied to claim 2 above, and further in view of Takeda et al..

Fujita-Agricola et al. disclose all the features of the claimed invention except that the pressure reducing valve comprises a check valve adapted to provide a substantially unimpeded flow of a gas from the manifold to the control modules. Takeda et al. disclose a valve structure that includes both a pressure reducing valve (21 and 22) and a check valve (32) as seen in Figures 2 and 3 which is adapted to provide a substantially unimpeded flow of a gas (page 3, paragraph 45).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the check valve/pressure reducing valve combination as disclosed by Takeda et al. onto the system of Fujita-Agricola et al., in order to have the uninhibited flow of gas into the cylinders.

13. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita as applied to claim 16 above, and further in view of Agricola et al..

Fujita discloses all the claimed features of the invention except that a valve disposed between the manifold and the control modules. Agricola discloses using a solenoid valve (8) between the manifold and the solenoid valves (9)(control modules)(page 1, paragraph 17).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the solenoid valve between the control modules and the manifold as disclosed by Agricola et al. onto the system of Fujita, in order to have more control of the system.

14. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita as applied to claim 16 above, and further in view of Belcher, Jr..

Fujita discloses all the features of the claimed invention except that the gas regulation system further comprises an impedance safety monitor device in electrical communication with the power source. Belcher, Jr. discloses the use of an impedance device to take the place of a sensing element in a control circuit that would sense the condition of the system and further has a shut down component (col. 1, lines 56-64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the impedance device of Belcher, Jr. onto the system of Fujita, in order to have more control of the system.

15. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita-Agricola et al. as applied to claim 17 above, and further in view of Takeda et al..

Fujita and Agricola et al. disclose all the features of the claimed invention except that the gas flowing from the manifold to the control modules is at a pressure of 2000 psi or greater. Takeda discloses that the pressure that is used to charge the gas cylinders is equal to or greater than 2000 psi (page 3, paragraph 40) and that the pressure flowing from the control modules to the manifold is equal to or less than about 200 psi (page 3, paragraphs 43 and 44).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the system of Fujita and Agricola et al. with the pressures described by Takeda et al, in order to get the most out of the system.

16. Claim 26 rejected under 35 U.S.C. 103(a) as being unpatentable over Fujita as applied to claim 25 above, and further in view of Belcher, Jr..

Fujita discloses all the features of the claimed invention except that the gas regulation system further comprises an impedance safety monitor device in electrical communication with the power source. The term "wherein" is being given patentable weight in such that the system only need to be capable of only opening one valve at a time. Belcher, Jr. discloses the use of an impedance device to take the place of a sensing element in a control circuit that would sense the condition of the system and further has a shut down component (col. 1, lines 56-64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the impedance device of Belcher, Jr. onto the system of Fujita, in order to have more control of the system.

17. Claim 1, 10-11, 14, 16, 18, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over McJones (3,719,196) in view of Fujita.

McJones discloses a gas regulation system comprising a manifold (62), a plurality of control modules (20, 22, and 24) in fluid communication with the manifold (col. 5, lines 1-6), wherein each control module comprises an actuatable valve in fluid communication with an associated gas storage device (14, 16, and 18)(col. 3, line 63 to col. 4, line 7) and that more than one valve will not be actuated at a time (col. 2, lines 9-

12). McJones does not disclose a power source in electrical communication with each of the actuatable valves. Fujita discloses the use of a power source for controlling the actuatable valves and also that the valves are electrical.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the electrical controls and the electrically actuatable valves of Fujita onto the system of McJones, in order to have more control of the system.

Regarding claim 10, the term "wherein" is being given patentable weight in such that the system is capable of doing the recited language after wherein.

Regarding claim 11, the system comprising a test module in electrical communication with the manifold controller (page 2, paragraph 16-17).

Regarding claim 14, the term "wherein" is being given patentable weight in such that the system is capable of doing the recited language after wherein.

Regarding claim 16, a process for operating a gas regulation system, wherein the gas regulation system comprises a manifold, a plurality of control modules in fluid communication with the manifold, and a power source in electrical communication with the plurality of control modules, wherein each of the control modules comprises an actuatable valve in fluid communication with an associated gas storage device, and a circuit comprising a switch in electrical communication with the actuatable valve and the power source, the process comprising closing a selected one of the switches and energizing the circuit defined by the closed switch to open the actuatable valve, wherein energizing the circuit comprises supplying power to the circuit to enable actuation of the

actuatable valve, wherein the power is insufficient to actuate the actuatable valve if more than one switch is closed.

Regarding claim 25, a control module for a gas regulation system having a manifold, the control module comprising a processing unit responsive to an external control signal, an actuatable valve responsive to the processing unit and a power source, and adapted for fluid communication between a gas storage device and the manifold, wherein the actuatable valve opens to provide fluid communication between the gas storage device and the manifold in response to a signal from the processing unit and in the absence of a second actuatable valve of a second control module of the gas regulation system being open.

18. Claims 2 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over McJones and Fujita as applied to claim 1 above, and further in view of Agricola et al. (US2002/0134342).

McJones and Fujita disclose all the features of the claimed invention except that the system comprises a directional pressure-reducing device disposed between the manifold and the control module. Agricola et al. disclose that the pressure reducing valve (7) is disposed between the manifold (1) and the control valves (8 and 9)(page 1, paragraph 17).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the pressure reducing valve as disclosed by Agricola et al. onto the system of McJones and Fujita, in order to provide the gas at the required working pressure for the components.

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19. Claims 3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over McJones and Fujita as applied to claim 1 above, and further in view of Takeda et al. (US2002/0092575).

McJones and Fujita disclose all the features of the claimed invention except that the system comprises a directional pressure-reducing device disposed between the control module and the gas storage device. Takeda et al. disclose that the pressure reducing valve is disposed immediately outside the gas storage device.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the pressure reducing valve of Takeda et al. onto the system of Fujita, in order to reduce the pressure of the gas to a workable pressure.

20. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over McJones and Fujita as applied to claim 1 above, and further in view of Belcher, Jr. (2,793,813).

McJones and Fujita disclose all the features of the claimed invention except that the gas regulation system further comprises an impedance safety monitor device in electrical communication with the power source. Belcher, Jr. discloses the use of an impedance device to take the place of a sensing element in a control circuit that would sense the condition of the system and further has a shut down component (col. 1, lines 56-64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the impedance device of Belcher, Jr. onto the system of McJones and Fujita, in order to have more control of the system.

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21. Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over McJones and Fujita.

The examiner takes official notice that the use of an impedance safety monitor device is old and well known in the art and would be combined with the device of Fujita for reasons that old and well known in the art.

22. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over McJones and Fujita as applied to claim 1 above, and further in view of Petite et al. (US2002/0125998).

McJones and Fujita disclose all the features of the claimed invention except that the control modules further comprise a local control-processing unit in electrical communication with a manifold controller. Petite et al. disclose the use of a central controller (130) and a local controller (110)(page 3, paragraph 42).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the local controllers of Petite et al. onto the system of McJones and Fujita, in order to add more control to the system.

23. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over McJones and Fujita.

The examiner takes official notice that the use of an impedance safety monitor device is old and well known in the art and would be combined with the device of Fujita for reasons that old and well known in the art.

24. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over McJones and Fujita as applied to claim 1 above, and further in view of Watson (3,322,135).

McJones and Fujita disclose all the features of the claimed invention except that the actuatable valves comprise a solenoid valve. Watson discloses solenoid valves (23) on the discharge side of tanks (col. 4, lines 47-50).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the solenoid valves as disclosed by Watson onto the actuatable valve of McJones and Fujita, in order to utilize more cost effective valves.

25. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over McJones-Fujita-Agricola et al. as applied to claim 2 above, and further in view of Takeda et al..

McJones-Fujita-Agricola et al. disclose all the features of the claimed invention except that the pressure reducing valve comprises a check valve adapted to provide a substantially unimpeded flow of a gas from the manifold to the control modules. Takeda et al. disclose a valve structure that includes both a pressure reducing valve (21 and 22) and a check valve (32) as seen in Figures 2 and 3 which is adapted to provide a substantially unimpeded flow of a gas (page 3, paragraph 45).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the check valve/pressure reducing valve combination as disclosed by Takeda et al. onto the system of McJones-Fujita-Agricola et al., in order to have the uninhibited flow of gas into the cylinders.

26. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over McJones and Fujita as applied to claim 1 above, and further in view of Fujita.

McJones does not disclose that the system further comprises an electrochemical cell system in fluid communication with the manifold. Fujita discloses using the system with a fuel cell (page 1, paragraph 13).

It would have been obvious to one having ordinary skill in the art to utilize the system of McJones with a fuel cell as taught by Fujita, in order to improve the marketability of the system.

27. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over McJones and Fujita as applied to claim 1 above, and further in view of Fujita.

McJones discloses all the features of the claimed invention except that the system is being used with hydrogen gas. Fujita discloses that the system is being used with hydrogen (page 1, paragraph 2).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the McJones system with hydrogen gas as taught by Fujita, in order to improve the marketability of the system.

28. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over McJones and Fujita as applied to claim 16 above, and further in view of Agricola et al..

McJones and Fujita disclose all the claimed features of the invention except that a valve disposed between the manifold and the control modules. Agricola discloses using a solenoid valve (8) between the manifold and the solenoid valves (9)(control modules)(page 1, paragraph 17).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the solenoid valve between the control modules and the

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manifold as disclosed by Agricola et al. onto the system of McJones and Fujita, in order to have more control of the system.

29. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over McJones and Fujita as applied to claim 16 above, and further in view of Belcher, Jr..

McJones and Fujita disclose all the features of the claimed invention except that the gas regulation system further comprises an impedance safety monitor device in electrical communication with the power source. Belcher, Jr. discloses the use of an impedance device to take the place of a sensing element in a control circuit that would sense the condition of the system and further has a shut down component (col. 1, lines 56-64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the impedance device of Belcher, Jr. onto the system of McJones and Fujita, in order to have more control of the system.

30. Claims 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over McJones-Fujita-Agricola et al. as applied to claim 17 above, and further in view of Takeda et al..

McJones-Fujita-Agricola et al. disclose all the features of the claimed invention except that the gas flowing from the manifold to the control modules is at a pressure of 2000 psi or greater. Takeda discloses that the pressure that is used to charge the gas cylinders is equal to or greater than 2000 psi (page 3, paragraph 40) and that the pressure flowing from the control modules to the manifold is equal to or less than about 200 psi (page 3, paragraphs 43 and 44).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the system of McJones-Fujita-Agricola et al. with the pressures described by Takeda et al, in order to get the most out of the system.

31. Claim 26 rejected under 35 U.S.C. 103(a) as being unpatentable over McJones and Fujita as applied to claim 25 above, and further in view of Belcher, Jr..

McJones and Fujita disclose all the features of the claimed invention except that the gas regulation system further comprises an impedance safety monitor device in electrical communication with the power source. The term "wherein" is being given patentable weight in such that the system only need to be capable of only opening one valve at a time. Belcher, Jr. discloses the use of an impedance device to take the place of a sensing element in a control circuit that would sense the condition of the system and further has a shut down component (col. 1, lines 56-64).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the impedance device of Belcher, Jr. onto the system of McJones and Fujita, in order to have more control of the system.

Allowable Subject Matter

32. Claims 8 and 27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

33. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yoshizumi et al. (US2002/0094469) discloses the use of a

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pressure reducing valve in a hydrogen fuel cell system. Kuriwa et al. (6,651,701) and von Herrmann et al. (5,323,752) disclose hydrogen fuel cell systems. Jones (4,645,908) discloses a system that utilizes an impedance device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig M. Schneider whose telephone number is (571) 272-3607. The examiner can normally be reached on M-F 8:30 -5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on (571) 272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CMS

February 16, 2006

CMS



Eric Keasel
Primary Examiner
Art Unit 3754